

Title (en)

POWER MANAGEMENT IN ELECTRIC VEHICLES

Title (de)

LEISTUNGSVERWALTUNG IN ELEKTRISCHEN FAHRZEUGEN

Title (fr)

GESTION DE PUISSANCE DANS DES VÉHICULES ÉLECTRIQUES

Publication

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Application

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Abstract (en)

[origin: EP3070823A2] Various techniques described herein relate to electric vehicle power management system for managing a plurality of battery modules in a battery pack. Such electric vehicle power management system may include a plurality of battery management systems corresponding to a plurality of battery modules, and an energy management system for managing the plurality of battery management systems. The energy management system and the plurality of battery management systems may adopt master-slave wireless communication, and may use a single wireless frequency channel or a plurality of assigned wireless frequency channels.

IPC 8 full level

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B60H 2001/003 (2013.01 - US); **B60R 2300/8006** (2013.01 - US); **H01M 2010/4271** (2013.01 - CN US); **H01M 2010/4278** (2013.01 - CN US);
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Y02T 90/12 (2013.01 - EP); **Y02T 90/14** (2013.01 - EP); **Y02T 90/16** (2013.01 - EP US)

Citation (search report)

- [XII] NIELS JEGENHORST ET AL: "Entwicklung eines Zellsensors für Fahrzeughärtbatterien mit bidirektionaler drahtloser Kommunikation", 27 October 2011 (2011-10-27), Hamburg, pages 1 - 413, XP055296336, Retrieved from the Internet <URL:<http://edoc.sub.uni-hamburg.de/haw/volltexte/2012/1535/pdf/Masterarbeit.pdf>> [retrieved on 20160818]
- [I] SHEMA ANN MATHEW ET AL: "A smart wireless battery monitoring system for Electric Vehicles", INTELLIGENT SYSTEMS DESIGN AND APPLICATIONS (ISDA), 2012 12TH INTERNATIONAL CONFERENCE ON, IEEE, 27 November 2012 (2012-11-27), pages 189 - 193, XP032312934, ISBN: 978-1-4673-5117-1, DOI: 10.1109/ISDA.2012.6416535
- [I] MATTHIAS SCHNEIDER ET AL: "Automotive battery monitoring by wireless cell sensors", 2013 IEEE INTERNATIONAL INSTRUMENTATION AND MEASUREMENT TECHNOLOGY CONFERENCE (I2MTC), IEEE, 13 May 2012 (2012-05-13), pages 816 - 820, XP032451530, ISSN: 1091-5281, DOI: 10.1109/I2MTC.2012.6229439
- [I] DAMIAN ALONSO ET AL: "Towards a Wireless Battery Management System: Evaluation of Antennas and Radio Channel Measurements Inside a Battery Emulator", 2014 IEEE 80TH VEHICULAR TECHNOLOGY CONFERENCE (VTC2014-FALL), September 2014 (2014-09-01), pages 1 - 5, XP055293819, ISBN: 978-1-4799-4449-1, DOI: 10.1109/VTCFall.2014.6966212
- [T] ROSCHER VALENTIN ET AL: "Synchronisation using wireless trigger-broadcast for impedance spectroscopy of battery cells", 2015 IEEE SENSORS APPLICATIONS SYMPOSIUM (SAS), IEEE, 13 April 2015 (2015-04-13), pages 1 - 6, XP032788598, DOI: 10.1109/SAS.2015.7133608

Cited by

EP3367493A1; WO2021220306A1; US10770907B2; EP3370993B1

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